Klein-Durchlauferhitzer
MH 3..7 und MDH 3..7

Gebrauchs- und Montageanleitung

Small instant water heaters MH 3..7 and MDH 3..7

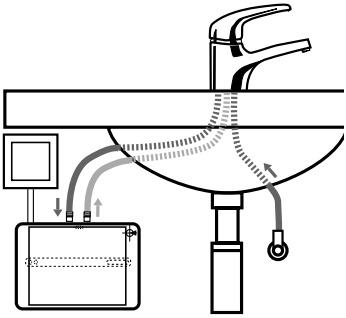
Operating and installation instructions

D GB F NL PL RUS

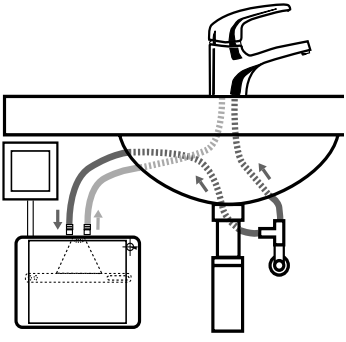
CZ SK S N FIN P

...wirtschaftlich warmes Wasser.

MH 3..7

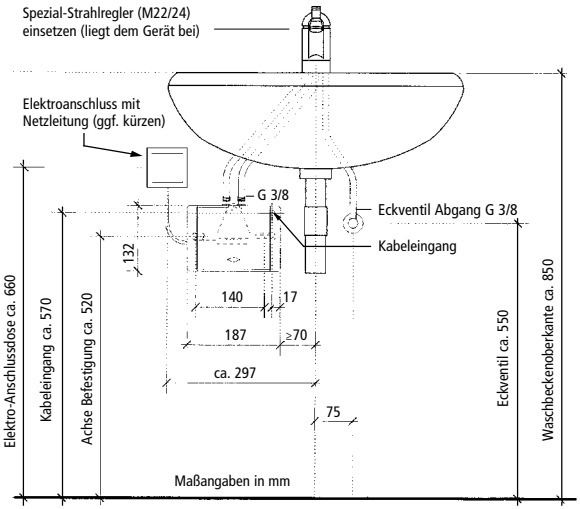


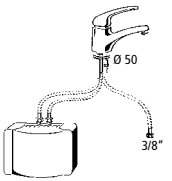
MDH 3..7



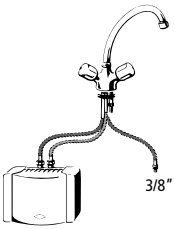
- Druckfeste Installation nur mit Typ MDH zulässig!
- Closed outlet installation only allowed with MDH types!
- Vous pouvez installer un mitigeur ou mélangeur (de pression à 2 tubes) uniquement avec le type MDH.
- Met het Type MDH kan ook een mengkraan of een-greeps-mengkraan (2 buisjes) worden aangesloten.
- Montaż ciśnieniowy możliwy jest wyłącznie z ogrzewaczem typu MDH!
- Монтаж водонагревателя как напорного возможен только, если у Вас модель MDH.
- Tlaková instalace, možná jen u typů MDH
- Tlaková inštalácia dovolená len pri type MDH
- Trykkfast installasjon kun tillatt med type MDH!
- Paineenkestävä asennus sallittu vain mallilla MDH!
- Instalação resistente à pressão só autorizada com o tipo MDH!

1



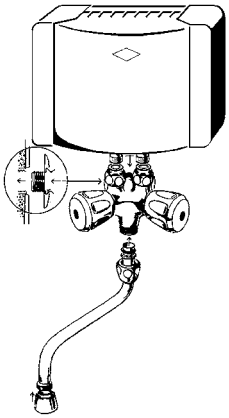


M../ENM

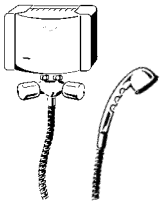


M../SNM

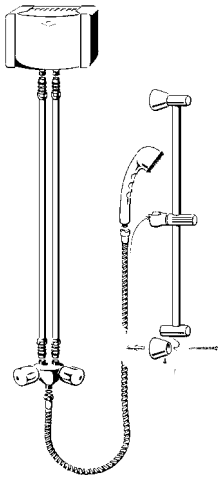
2



M../SMB

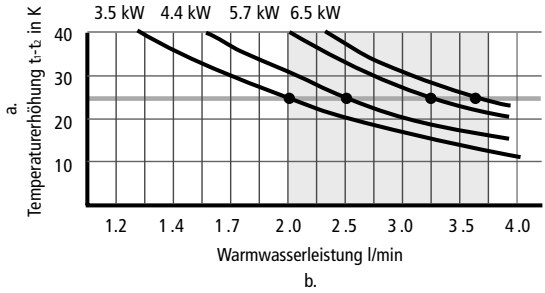


M../BG



M../BGS

3



a. Temperature raise t_1-t_2 in K
b. Hot water output l/min

a. Augmentation t_1-t_2 in K
b. Capacité l/min

a. Temperatuur t_1-t_2 in K
b. Warmwater l/min

a. Wzrost temperatury t_1-t_2 mierzony w K
b. Ilość ciepłej wody w l/min.

a. Повышение температуры t_1-t_2, K
b. Расход горячей воды, л/мин

a. Vzrůst teploty t_1-t_2 v K
b. Průtok horké vody v l/min.

a. Teplotné zvýšenie t_1-t_2 v K
b. Teplotný prietok l/min.

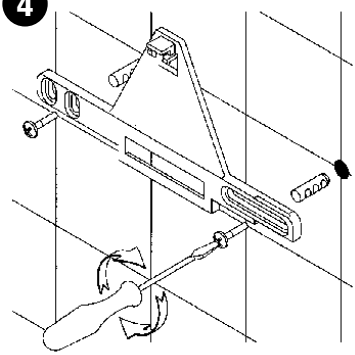
a. Temperaturerhöjning i grader
b. Vv-flöde i liter per minut

a. Temperaturøkning t_1-t_2 i K
b. Varmtvannsytelse l/min

a. Lämpötilan nousu K:n t_1-t_2
b. Lämminvesiteho l/mi

a. Aumento da temperatura t_1-t_2 in K
b. Capacidade de água quente l/min

4



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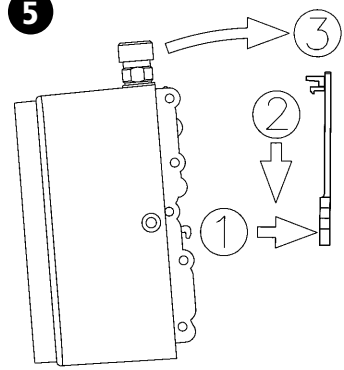
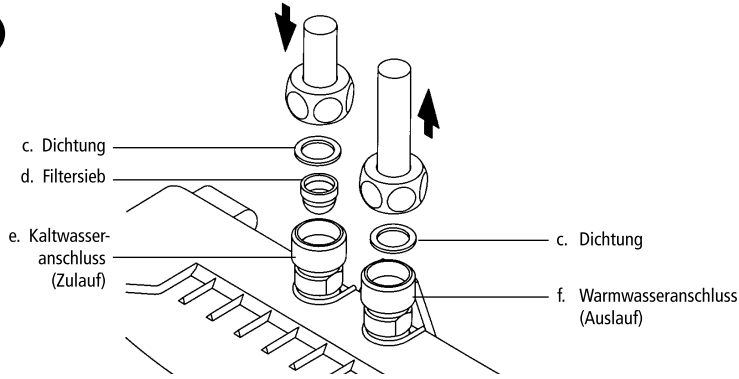


6



c. Seal
d. Strainer
e. Cold water-connection (inlet)
f. Hot water-connection (outlet)

c. Joint
d. Filtre
e. Raccordement eau froide
f. Raccordement eau chaude

c. Dichtring
d. Filtertje
e. Koudwater aansluiting (inloop)
f. Warmwater aansluiting (uitloop)

c. uszczelka
d. sitko filtrujace
e. przyłącze zimnej wody (wlot)
f. przyłącze cieplej wody (wylot)

c. прокладка (уплотнительное кольцо)
d. фильтрующая сеточка
e. подключение холодной воды (вход)
f. подключение горячей воды (выход)

c. spoj
d. filtrační sítko
e. přívod studené vody
f. výstup horké vody

c. Tesnenie
d. Sitko
e. Studená voda výtok
f. Teplá voda prívod

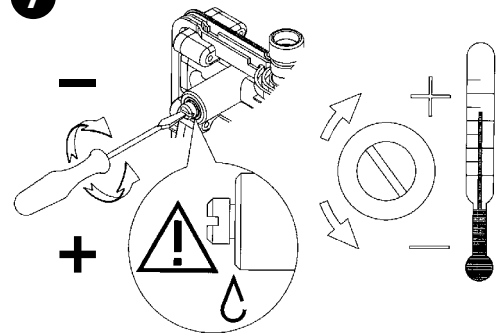
c. Packning
d. Filtersil
e. Kallvattenanslutning (tillopp / blå)
f. Varmvattenanslutning (utlopp / röd)

c. Tetning
d. Filtersil
e. Kaldtvannstilkopling (innløp)
f. Varmtvannstilkopling (utløp)

c. Tiiviste
d. Suodattimen sihti
e. Kylmävedenliitäntä (tulo)
f. Lämminvesiliitäntä (poisto)

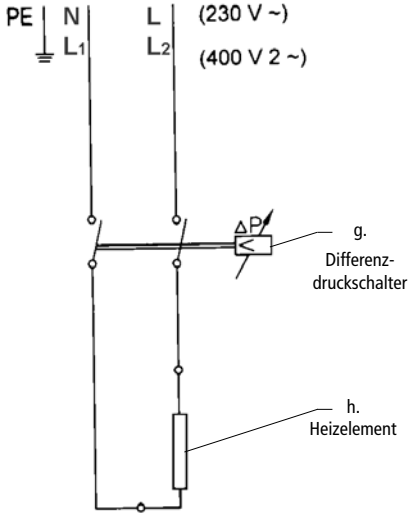
c. Junta de vedação
d. Peneira do filtro
e. Ligação de água fria (entrada)
f. Ligação de água quente (saída)

7

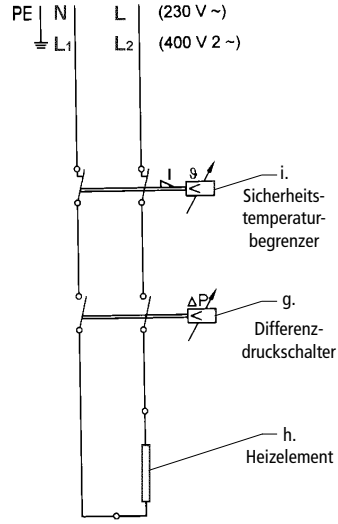


8

MH 3..7



MDH 3..7



g. Differential pressure switch
h. Heating element
i. Safety thermal cut-out

g. Interrupteur à pression différentielle
h. Elément chauffant
i. Limiteur thermique de sécurité

g. Verschildrukschakelaar
h. Verwarmingselement
i. Temperatuursbeveiliging

g. Presostat
h. Element grzejny
i. Zabezpieczenie termiczne

g. дифференциальное реле давления
h. нагревательный элемент
i. устройство защиты от перегрева

g. Diferenciální tlakový spínač
h. Topný článek
i. Bezpečnostní omezovač teploty

g. Diferenčný tlakový spínač
h. Ohrievac prvok
i. Bezpečnostný obmedzovač teploty

g. Pressostat
h. Värmeelement
i . Överhettningsskydd

g. Differansetrykkbryter
h. Varmeelement
i. Sikkerhetstemperaturvakt

g. Erotuspaineenkytkin
h. Lämmityselementti
i. Varmuuslämpötilan rajoitin

g. Interruptor de pressão diferencial
h. Elemento de aquecimento
i. Limitador da temperatura de segurança

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(D) Vor Installation und Benutzung des Gerätes lesen Sie bitte sorgfältig diese Gebrauchsanweisung! 4

(GB) Read these operating instructions carefully before installing and using the heater! 11

(F) Lisez et respectez intégralement la présente instruction avant d'installer et d'utiliser l'appareil! 18

(NL) Voor installatie en gebruik van deze Electrische Doorstroomwaterverwarmer allereerst deze handleiding aandachtig lezen en dan opvolgen..... 25

(PL) Przed instalacją i użytkowaniem urządzenia należy dokładnie przeczytać kompletną instrukcję obsługi i stosować się do jej wskazań! 32

(RUS) Перед монтажом и использованием нагревателя прочитайте внимательно данную инструкцию и соблюдайте содержащиеся в ней указания! 39

(CZ) Před instalací a použitím přístroje je nutno si důkladně přečíst a dodržovat tento návod! 46

(SK) Pred inštaláciou a použitím tohto prístroja si dôkladne prečítajte celý návod a dodržiavajte tu uvedené pokyny! 53

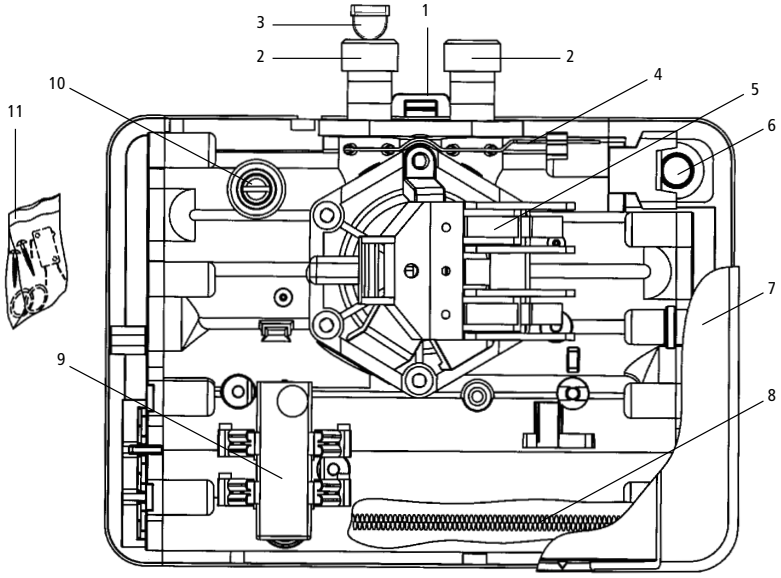
(S) Läs igenom denna instruktion fullständigt före installation och användning av beredaren! 60

(N) Les denne bruksanvisningen nøye før apparatet installeres og tas i bruk! 67

(FIN) Lue tämä käyttöohje huolellisesti läpi ennen laitteen asennusta ja käyttöä! 74

(P) Ler completamente estas Instruções antes de instalar e utilizar o aparelho, e observálas! 81

Layout of appliance and spareparts



Pos.	Description	Pos.	Description
1	wall bracket	7	appliance hood
2	water connector	8	heating wire
3	filter	9	safety thermal cut-out (MDH only)
4	fastening earth clip	10	flow adjustment screw
5	microswitch	11	set of small spareparts (for spare requirements, not included in delivery)
6	cable seal		

When ordering, please always specify the appliance model and serial number!

Read these operating instructions carefully before installing and using the heater!

GB

Safety notes:

- Installation, commissioning and maintenance of this appliance may only be undertaken by an authorized technician who will then be responsible for adherence to the applicable standards and installation regulations.
- The appliance may only be used when correctly installed and in perfect working order!
- The appliance must be installed in a frost-free room!
- The appliance must be completely filled with water before being switched on!
- The appliance and its wiring and piping must not be modified in any way!
- The front cover of the appliance must never be opened before disconnecting the appliance from the mains power supply!
- Be careful! When the appliance has been in use for some time, the fittings may be very hot!
- The appliance must be earthed at all times!

Intended use, operation

This small instantaneous water heater shall supply a single outlet and shall only be used for heating drinking water with a specific water resistance of ≥ 800 Ω cm at 15 °C. **Types MH 3..7 may be used only with special safety taps (open outlet)!** Use for any other purpose is not permitted. When the hot water tap is open, the heater switches on automatically and heats the water as it passes through the appliance. The hot water temperature depends on the flow rate (see diagram, fig.3). For this reason:

- slightly close the tap for higher temperatures or
- mix with cold water for lower temperatures.

Varying inlet temperatures and available pressure may affect the outlet temperature. In winter, when the incoming water is cold, the desired outlet temperature can often be achieved only by reducing the flow rate. If the flow rate or the water pressure is too low, or if the hot water tap is closed, the heater switches off automatically. For a satisfactory water output, the enclosed special jet regulator and/or hand shower shall be used.

Purging

To prevent damage to the appliance, the instantaneous water heater must be purged for air before using it for the first time. Each time it is emptied (e.g. after work on the plumbing system, if there is a risk of frost or following repair work), the appliance must be purged for air before it is used again.

1 Disconnect appliance from the mains by disactivating the fuses.
2 Next, open and close the hot water tap valve several times until no more air emerges from the pipe and all air has been eliminated from the water heater (approx. 1 minute).
3 Only then should you reconnect the power supply to the unit.

Maintenance and cleaning

- Clean the heater and the taps only by wiping with a damp cloth. Do not use abrasive cleaners or solvents.
- Clean the jet regulator or the hand-shower regularly and replace as necessary.
- Dirt and scale deposited in the pipes and heater will affect the function of the heater. Typical indications of this are a reduced rate of flow or noisy flow. In such cases, have the heater inspected by a technician and, if necessary, have the filter in the cold-water inlet cleaned.

Recycling

This symbol on the products and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste. For proper treatment, recovery and recycling, please take these products to designated collection points where they will be accepted on a free of charge basis. Alternatively, in some countries you may be able to return your products to your local retailer upon the purchase of an equivalent new product. Disposing of this product correctly will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest designated collection point. Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation. If you are a business user and you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information. This symbol is only valid in the European Union.

The following must be observed:

The heater is installed as shown in the immediate vicinity of the outlet in a frost-free room. We guarantee trouble-free operation only if CLAGE fittings and accessories are used. Note the following during installation:

- Observe the statutory regulations of the respective country, as well as those of the local electricity and water supply companies.
- Check technical data and the information on the rating plate.
- Ensure that all accessories are removed from the packing materials.
- Easy access to the appliance shall be guaranteed at all times. An external shut-off valve has to be installed.
- Thoroughly rinse the water pipes before connection.
- Install types MH 3..7 only with special safety taps (open-outlet tap)!
- Optimum operation is ensured at a water flow pressure of 0.2 to 0.4 MPa (2-4 bar), avoiding pressures exceeding 1 MPa (10 bar).

Installing the appliance

- Secure the wall bracket to the wall with screws and suitable wall plugs (see fig 4). Wall bracket is not necessary for M/SMB and M/BG.
- Place the appliance on the wall bracket (see fig. 5).
- The appliance is good for undersink and oversink installation according to the examples of installation (see fig. 1+2). For undersink installation the water connectors must point vertically upwards, for oversink installation the water connectors must point vertically downwards.
- Pipe connection (see fig. 6):
  Cold water inlet (blue) and hot water outlet (red) are marked by coloured round points on the rating plate. Connect the colour marked tap pipes to the water inlet/outlet accordingly.
  Avoid any kind of mechanical pressure exerted on the appliance, e.g. by water pipes etc.
- After installation, check all connections for leaks.

In order to obtain an optimum water jet at low flow rates, always screw the enclosed jet regulator onto the tap outlet. This insert fits commercially available sleeves with an M22 or M24 thread.

Electrical connection

Fill the appliance completely with water by repeatedly opening and closing the tap before connecting to electrical power. The heating element may be damaged if this is not done!

- The installation must comply with current IEC regulations or national local regulations or any particular regulations, specified by the local electricity supply company!
- The mains cable must be permanently connected via connecting box as shown in the circuit diagram. (see fig. 8). The earth conductor must be connected.
- A circuit breaker in accordance with IEC with a contact opening gap of at least 3 mm for each pole must be provided on the mains side of the connecting box.
- The wiring cross-section must be well adapted to the corresponding power rating. See technical data.
- To protect the appliance, a fuse element must be fitted with a tripping current commensurate with the nominal current of the appliance.

Putting into service

Do not switch on the electric power at this time!

1. Open the hot-water tap and allow water to flow until it emerges free of air bubbles.
2. Now close the circuit breaker. Hot water is delivered.

- Explain the functions of the heater to the user and ensure that he knows how to use it.
- Hand over these operating instructions to the user.

Adjusting the water flow

The temperature and the flow depend on the conditions at the installation site. In case of quite low or high inlet temperatures, you may reduce or increase the flow at the flow adjustment to achieve the desired hot water temperature (see fig. 7 how to adjust the screw).

Careful! Don't turn the adjustment screw further than the indent mark in order to avoid water leakage.

Technical specifications

Type		MH 3	MDH 3	MH 4	MDH 4	MH 6	MDH 6	MH 7	MDH 7	
Capacity		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	l
system	open outlet	• / 0 (0)	–	• / 0 (0)	–	• / 0 (0)	–	• / 0 (0)	–	MPa (bar)
	closed outlet	–	•/1(10)	–	•/1(10)	–	•/1(10)	–	•/1(10)	MPa (bar)
heating system		IES system: bare resistance element								
required water resistance		≥ 800 Ω cm at 15 °C								Ω cm
electric supply		230 ~	230 ~	230 ~	230 ~	230 ~	230 ~	400 2~	400 2~	V
nom. power rating @ 230/400V		3.5	3.5	4.4	4.4	5.7	5.7	6.5	6.5	kW
nominal current		15.2	15.2	19.1	19.1	24.8	24.8	16.2	16.2	A
req. min. cross-section		1.5	1.5	2.5	2.5	2.5	2.5	2.5	2.5	mm^2
hot water output at Δt = 25 K		2.0	2.0	2.5	2.5	3.3	3.3	3.7	3.7	l / min
switching off @		1.2	1.2	1.4	1.4	1.7	1.7	2.0	2.0	l / min
weight filled with water approx.		1.2	1.3	1.2	1.3	1.2	1.3	1.2	1.3	kg
dimensions (H x W x D)		13.2 x 18.7 x 8.0								cm
protection class acc. to VDE		1								
type of protection acc. to VDE		IP 25: oversink units / IP 24: undersink units								
approval marks		see rating plate								

Customer service

The following table will help you to determine and rectify the reasons for possible problems. Maintenance of this appliance may only be undertaken by an authorized technician!

Fault	Cause	Action
no water flows	water supply is turned off	open the main water valve / the shut-off valve
water flows more slowly-than expected	the jet regulator is not fitted	fit the special CLAGE jet regulator
	water pressure is not sufficient	check the water flow pressure
	dirt in the pipes	remove any dirt from the filter, valves and/or taps check the technical data
the heater switches itself on and off	water pressure is varying flow rate is too low	remove any dirt / increase the flow water pressure close other taps open the shut-off valve further
water remains cold, although the appliance switches on	faulty heating element	replace heating element (by authorized technician)
	one phase is not connected	check the supply voltage (2/PE 400 V - MH/MDH 7 only)
	electric supply incorrect	check the electric supply
	circuit breaker has tripped safety thermal cut-out has tripped	have the fault rectified by a technician and reset the safety thermal cut-out / circuit breaker
appliance does not switch and the water remains cold	water connections mixed up	check installation
	water pressure is not sufficient	adjust the water flow (see fig. 7) open the shut-off valve
	dirt in the pipes	remove dirt from the inlet and outlet pipes
hot water temperature varies	water pressure varies	stabilise the water flow pressure avoid using other taps in the same circuit (i.e. toilets, washing machines)
	supply voltage varies	check the supply voltage
hot water temperature too low	flow rate is too high inlet temperature is too low	adjust the flow either at the tap, the valve or the flow adjustment screw
	power supply is too low	measure the temperatures and flow rate and compare with the technical data, check the power supply

If you cannot rectify the fault with the aid of this table, please contact:

CLAGE GmbH Central customer service
Pirolweg 1 – 5
D - 21337 Lüneburg
Deutschland

Fon: +49 (0) 41 31 - 89 01-40
Fax: +49 (0) 41 31 - 89 01-41
E-Mail: service@clage.de
Internet: www.clage.com

We can either give you the name and address of an authorised customer service company or repair the heater ourselves. In the latter case, please send in the heater (at your cost and risk) with details of the problem and a copy of the sales invoice.

CLAGE GmbH

Pirolweg 1–5
21337 Lüneburg

Fon: +49 (0) 41 31 - 89 01-0
Fax: +49 (0) 41 31 - 83 200

E-Mail: info@clage.de
Internet: www.clage.de

CLAGE GmbH Zentralkundendienst

Fon: +49 (0) 41 31 - 89 01-40
Fax: +49 (0) 41 31 - 89 01-41

E-Mail: service@clage.de

…wirtschaftlich warmes Wasser.

Technische Änderungen und Irrtum vorbehalten. 9120-1401 12-05 GP-BA 60

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